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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,033	09/18/2003	Sanyogita Gupta	APP 1531	4487

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EXAMINER

NGUYEN, VAN KIM T

ART UNIT	PAPER NUMBER
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2152

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/665,033	Applicant(s) GUPTA ET AL.	
	Examiner Van Kim T. Nguyen	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 5-10 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 3,4,11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>August 14, 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to communications filed on September 18, 2003.

Claims 1-15 are pending in the application.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on August 14, 2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As presented in para [13-16], the disclosure would suggest to one of ordinary skill in the art that all limitations as claimed may be reasonably implemented as software routines; therefore, claim 15 is rejected as a system of software *per se*, failing to fall within a statutory category of invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 5-8 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (US 6,078,946).

Regarding claim 1, Johnson discloses:

selecting one or more routing factors from the set of routing factors (e.g., each path has a number of attributes including reliability, cost, speed, distance, expandability, etc. that can be combined to determine the relative desirability of the path attributes; col. 3: lines 56-58 and col. 7: lines 4-10);

for each selected routing factor, selecting one or more of the allowable values (e.g., input values representative of attributes, from -5 to +5, with a higher number indicating greater desirability; col. 7: lines 29-30, Tables 1-3);

prioritizing the selected routing factors (e.g., attributes are prioritized by customers; col. 9: lines 40-45);

for each selected routing factor, prioritizing the selected allowable values (e.g., input values representative of attributes, from -5 to +5, with a higher number indicating greater desirability; col. 7: lines 29-30, Tables 1-3); and

for any given link in the network:

determining for each selected routing factor which selected allowable value, if any, matches the characteristics of the link (e.g., trail 1 is a fiber optic system that 50km long, its cable is buried 8ft deep, and the cost to expand the trail is \$150,000; thus the neural values are 0, +5, and +3, respectively; col. 7: lines 33-60, Tables 1-3);

combining the prioritization of each matched value with the prioritization of that value's corresponding routing factor to determine a cost for each factor (e.g., the cost of the shortest trail attribute for trail 1 is (0×0.8) ; col. 9: lines 40-60, Tables 1-3); and

summing the combined costs for each selected routing factor to determine the cost for the link (col. 9: lines 55-60).

Regarding claim 2, Johnsons also discloses:

determining a weight for each selected routing factor based on the prioritization of the factor (col. 9: lines 33-50);

for each selected routing factor, determining a cost for each of the selected allowable values based on the prioritization of the values (e.g., the cost of the shortest trail attribute for trail 1 is (0×0.8) ; col. 9: lines 40-60, Tables 1-3); and

wherein the combining step combines the cost of each matched value with the weight of that value's corresponding routing factor to determine the cost for each factor (col. 9: lines 55-60).

Regarding claim 5, Johnsons also discloses determining, combining, and summing steps are only performed if it is first determined that each of the selected routing factors apply to the

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given link and if at least one of the selected allowable values for each factor applies to the given link (col. 9: lines 30-60).

Regarding claims 6, 10 and 15, Johnson also discloses a method, comprising:

selecting one or more routing factors from the set of routing factors (e.g., each path has a number of attributes including reliability, cost, speed, distance, expandability, etc. that can be combined to determine the relative desirability of the path attributes; col. 3: lines 56-58 and col. 7: lines 4-10);

for each selected routing factor, selecting one or more of the allowable values (e.g., input values representative of attributes, from -5 to +5, with a higher number indicating greater desirability; col. 7: lines 29-30, Tables 1-3);;

assigning a weight to each selected routing factor (e.g., each attributes is assigned a weight based on customer's priorities, col. 9: lines 33-50);

for each selected routing factor, assigning each selected allowable value a cost (e.g., input values representative of attributes, from -5 to +5, with a higher number indicating greater desirability; col. 7: lines 29-30, Tables 1-3);

traversing a plurality of links through the network to determine one or more possible routes wherein a given link is only traversed if each of the selected routing factors applies to the link and if at least one of the selected allowable values for each factor applies to the link (Figures 7-9, col. 12: line 1- col.13: line 49), and wherein a cost is calculated for each traversed link by:

determining for each selected routing factor which selected allowable value matches the characteristics of the traversed link (e.g., trail 1 is a fiber optic system that 50km long, its cable is

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buried 8ft deep, and the cost to expand the trail is \$150,000; thus the neural values are 0, +5, and +3, respectively; col. 7: lines 33-60, Tables 1-3);

for each matched allowable value, weighting the cost of the matched value by the corresponding weight of the routing factor (e.g., the cost of the shortest trail attribute for trail 1 is (0×0.8) ; col. 9: lines 40-60, Tables 1-3); and

summing the weighted costs to determine a cost for the traversed link (col. 9: lines 55-60); and

using the link costs of the traversed links to select a route from among the one or more determined possible routes (e.g., best trails are identified, then combined, as appropriate, to provide the best path; col. 13: lines 2-5).

Regarding claims 7 and 13, Johnson also discloses the weights assigned to the selected routing factors are based on a prioritization of the factors (col. 9: lines 33-50).

Regarding claims 8 and 14, Johnson also discloses the costs assigned to the selected allowable values for each selected routing factor are based on a prioritization of the allowable values (e.g., input values representative of attributes, from -5 to +5, with a higher number indicating greater desirability; col. 7: lines 29-30, Tables 1-3).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, as applied to claim 6 above, in view of Odiaka (US 6,829,347).

Johnson discloses substantially all the claimed limitations, except for at least one of the selected routing values a default value is selected in addition to the selected one or more allowable values.

Odiaka teaches at least one of the selected routing values a default value is selected in addition to the selected one or more allowable values (e.g., QoS profile, by default, only the basic service type is available; col. 7: lines 16- col. 8: lines 46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Odiaka's method of selecting a trail in Johnson's system, in order to mediate between a required class of service requested by a user and the available quality of service which can be supported.

Allowable Subject Matter

8. Claims 3-4 and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Multi-Constraint Routing System and Method, Lee et al (US 7,187,652);

Dynamic Optimal Path Selection in Multiple Communications Networks, Sahinoglu et al (US 7,099,277);

Segmented and Distributed Path Optimization in a Communication Network, Steinberg et al (US 7,020,087);

Method and System for Optimizing Routing Through Multiple Available Internet Route Providers, Ahuja et al (US 6,981,055);

Multiple Path Reactive Routing in a Mobile Ad Hoc Network, Cain (US 6,961,310);

Path Determination in a Data Network, Szviatovszki et al (US 6,956,821);

Use Allowed Priority Level for Routing Decision in SIMA Network, Kilkki (US 6,490,287);

QoS Based Route Determination Method for Communications Networks, Luo et al (US 6,377,551);

Constraint-Based Route Selection Using Biased Cost, Hsu (US 6,363,319);

Call Routing Method Using Prioritized Source-Destination Routes, Suzuki (6,289,096);

System and Method for Management of Connection Oriented Networks, Johnson (US 6,078,946), and

Connectivity Matrix-Based Multi-Cost Routing, Seid (US 5,754,543).

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Van Kim T. Nguyen whose telephone number is 571-272-3073.

The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Van Kim T. Nguyen
Examiner
Art Unit 2151

/Bunjob Jaroenchonwanit/
Bunjob Jaroenchonwanit
Supervisory Patent Examiner
Art Unit 2152
February 1, 2008